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(FILE 'HOME' ENTERED AT 18:15:52 ON 29 JUN 2004)

FILE 'MEDLINE, SCISEARCH, CAPLUS' ENTERED AT 18:16:10 ON 29 JUN 2004

L1 31071 S ALGINATE  
L2 1856 S L1 (L) (POROUS OR PORE? OR GAS OR FOAM? OR LEACH?)  
L3 1211 S L2 AND PY<=1998  
L4 1026 DUP REM L3 (185 DUPLICATES REMOVED)  
L5 1026 FOCUS L4 1-  
L6 11 S L4 AND (DNA OR NUCELIC OR GENE OR PLASMID)  
L7 11 SORT L6 PY  
E SHEA LONNIE?/AU  
L8 23 S E2  
E BONADIO JEFFREY?/AU  
L9 62 S E1  
L10 85 S L8 OR L9  
L11 77 DUP REM L10 (8 DUPLICATES REMOVED)  
L12 2 S L11 AND L2  
L13 2 S L8 AND L2  
L14 0 S L9 AND L2

=> d an ti so au ab pi l13 1-2

L13 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:380374 CAPLUS

DN 134:371799

TI Sustained drug delivery from polymer matrixes

SO PCT Int. Appl., 88 pp.

CODEN: PIXXD2

IN Mooney, David J.; **Shea, Lonnie D.**; Peters, Martin C.; Liao, Elly; Richardson, Thomas P.

AB Disclosed are pre-fabrication methods for preparing particular 3-dimensional structural matrixes containing proteins and/or drugs, the resultant compns. and in vitro and in vivo methods for the prolonged release of proteins and/or drugs in various biol. environments. The pre-fabrication processes provide protein- and/or drug-matrix materials with both high incorporation efficiencies and control over sustained protein and/or drug release. The resultant matrixes are thus particularly useful in vivo biodelivery embodiments, providing control over spatial delivery and differential release kinetics of multiple biol. components. Thus, 125I-labeled vascular endothelial growth factor (VEGF) was first added to a solution of 1% sodium **alginate**, and then beads of this solution were gelled by injecting droplets into a aqueous solution containing calcium chloride. The **alginate** beads were collected, rinsed, and lyophilized. The lyophilized beads were mixed with 85:15 PLGA and NaCl particles and the mixture compression molded and processed with a **gas foaming/particulate leaching** process. Following salt **leaching** and drying, the matrixes were placed in the serum-free tissue culture medium and maintained at 37°. The released growth factor was normalized to the total incorporated growth factor.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2001035932	A2	20010525	WO 2000-US31754	20001117
WO 2001035932	A3	20020307		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

L13 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:736893 CAPLUS

DN 131:332976

TI Sustained dna delivery from structural porous matrices for gene therapy

applications with special emphasis is on bone formation and regeneration  
SO PCT Int. Appl., 144 pp.  
CODEN: PIXXD2

IN **Shea, Lonnie D.**; Bonadido, Jeffrey; Mooney, David J.  
AB Disclosed are particular 3-dimensional structural matrixes containing DNA and  
their use in the prolonged release of DNA in various biol. environments.  
The structural matrix is a **porous** polymer [PLGA]-based containing  
**pores** formed by **gas foaming** involving inert  
**gases** (CO<sub>2</sub>) and **leaching** out of a water-soluble particulate  
(salt, NaCl, sugar, glucose, sucrose, mannitol) when exposed to body  
fluids. The admixt. is compression molded into a selected size and shape  
prior to executing the **gas foaming** process. The  
structural matrix may also be an **alginate** or modified  
**alginate** matrix. This structural matrix is a biocompatible or  
biodegradable matrix. It may also be a lactic acid polymer, glycolic acid  
polymer or lactic acid/glycolic acid copolymer matrix. At least part of  
this matrix may be comprised of lactic acid/glycolic acid (PLGA) copolymer  
matrix. The structural matrix may be modified where one side section is  
bonded to one cell interaction mol. such as cell adhesion mols., cell  
attachment peptides, proteoglycan attachment peptide sequences,  
proteoglycans, cell adhesion polysaccharides, growth factors, cell  
adhesion enzymes, RGD peptide, fibronectin, vitronectin, Laminin A,  
Laminin B1, Laminin B2, collagen 1 and thrombospondin. The DNA-matrix  
materials are created such that they maintain a defined space, allowing  
cellular migration, transfection and proliferation to occur in a  
controlled manner. Such DNA-containing structural matrixes are thus  
particularly useful in in vivo cell transfection and gene expression in  
the context of gene therapy. This may encode a protein for stimulating  
bone progenitors or wound healing in fibroblast or in tissue or organ  
regeneration or transplantation or an antigen for immunity or cytotoxic or  
apoptosis-inducing protein or a transcription factor or elongation factor  
or cell cycle control protein or kinase or phosphatase or DNA repair  
protein or oncogene or tumor suppressor or angiogenic protein or  
anti-angiogenic protein or immune response stimulating protein or cell  
surface receptor or accessory signaling mol. or transport protein or  
anti-bacterial or anti-viral protein or hormone or neurotransmitter or  
growth factor or growth factor receptor or interferon or interleukin or  
chemokine or cytokine or colony stimulating factor or chemotactic factor  
protein of growth hormone or parathyroid hormone or PTH1-34 polypeptide or  
bone morphogenic protein or BMP-2A or BMP-2B or BMP-3 or BMP-4 or BMP-5 or  
BMP-6 or BMP-7 or BMP-8 or TGF- $\alpha$  or TGF- $\beta$ 1 or TGF- $\beta$ 2 or  
latent TGF $\beta$  binding protein or activin/inhibin protein or FGF or  
GM-CSF or EGF or PDGF or insulin-like growth factor or leukemia inhibitory  
factor. This method allows for the use in gene transfer to cells within a  
tissue site and in manufacture of a medicament for gene therapy. Implantable  
medical devices comprising this gene-matrix are described. The release of  
nucleic acids from the matrix is controlled by diffusion. This method  
also applies to cancer therapy or treating viral infection.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958656	A2	19991118	WO 1999-US10330	19990512
WO 9958656	A3	20000106		
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BJ, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9938986	A1	19991129	AU 1999-38986	19990512

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L Number	Hits	Search Text	DB	Time stamp
1	6	((("5514378") or ("5639473") or ("5965125")).PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/06/29 17:05
2	53	alignate AND (nucleic or DNA)	USPAT; US-PGPUB; EPO; JPO; DERWENT; USOCR	2004/06/29 18:05
3	30	mooney-david-j.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; USOCR	2004/06/29 18:05
4	11	BONADIO and goldstein.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; USOCR	2004/06/29 18:05
5	51	(porous NEAR (polymer or microsphere or gel or hydrogel or matrix) AND gas AND (DNA or nucleic or sequence)) and 435/325.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; USOCR	2004/06/29 18:06
6	2	("6281256").PN.	USPAT; US-PGPUB; EPO; JPO; DERWENT; USOCR	2004/06/29 18:06
7	2	BONADIO and SHEA.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; USOCR	2004/06/29 18:07